

Docket No. 740756-2205
Application No. 09/651,889
Page 2

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A semiconductor device comprising: ~~a TFT containing an active layer having source and drain regions and a channel forming region being formed over a substrate~~[[,]]

a TFT formed over a substrate;

an active layer formed in the TFT;

source and drain regions formed in the active layer; and

a channel forming region formed in the active layer and between the source and drain regions.

wherein a portion of the channel forming region is convexed or concaved in a channel width direction, ~~said channel width direction being~~ which is parallel to a plane of the substrate.

2. (Currently amended) A semiconductor device comprising: ~~a TFT containing an active layer having a channel forming region formed over a substrate~~[[,]]

a TFT formed over a substrate;

an active layer formed in the TFT;

source and drain regions formed in the active layer; and

a channel forming region formed in the active layer and between the source and drain regions.

wherein a portion of the channel forming region is convexed or concaved in a channel width direction, ~~said channel width direction being~~ which is parallel to a plane of the substrate, and

wherein zero or one grain boundary is contained in the channel forming region.

3. (Currently amended) A semiconductor device comprising: ~~a TFT containing an active layer having a channel forming region formed over a substrate~~[[,]]

a TFT formed over a substrate;

Docket No. 740756-2205
Application No. 09/651,889
Page 3

an active layer formed in the TFT;
source and drain regions formed in the active layer; and
a channel forming region formed in the active layer and between the source and drain
regions.

wherein a portion of the channel forming region is convexed or concaved in a channel width direction, ~~said channel width direction being~~ which is parallel to a plane of the substrate, and

wherein the number of grain boundaries crossing the channel forming region in the width direction of the channel is zero or one.

4. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor film over a substrate;

forming a crystalline semiconductor film by irradiating a laser light to said semiconductor film;

forming a convex portion or a concave portion in a region which is a portion of said crystalline semiconductor film and which later contains a channel forming region; and

irradiating the laser light to said crystalline semiconductor film in which the convex portion or the concave portion is formed.

5. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor film over a substrate;

forming a crystalline semiconductor film by irradiating a laser light to said semiconductor film;

forming a convex portion or a concave portion in a region which is a portion of said crystalline semiconductor film and which later contains a channel forming region; and

irradiating the laser light to the top surface and to the bottom surface of said crystalline semiconductor film in which the convex portion or the concave portion is formed.

Docket No. 740756-2205
Application No. 09/651,889
Page 4

6. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

- forming a semiconductor film over a substrate;
- forming semiconductor islands by patterning said semiconductor film, each of said semiconductor island having a convex portion or a concave portion in a region which later contains a channel forming region, and
- crystallizing said semiconductor islands by irradiating a laser light.

7. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

- forming a semiconductor film over a substrate;
- forming semiconductor islands by patterning said semiconductor film, each of said semiconductor island having a convex portion or a concave portion in a region which later contains a channel forming region, and
- crystallizing said semiconductor islands by irradiating a laser light to the top surface and to the bottom surface thereof.

8. (Withdrawn) The method of manufacturing a semiconductor device according to claim 5, wherein a relationship of $0 < (I_0' / I_0) < 1$, or a relationship of $1 < (I_0' / I_0)$, exists between the effective energy strength of the laser light irradiated on the top surface of said semiconductor film (I_0) and the effective energy strength of the laser light irradiated on the bottom surface of said semiconductor film (I_0').

9. (Withdrawn) The method of manufacturing a semiconductor device according to claim 7, wherein a relationship of $0 < (I_0' / I_0) < 1$, or a relationship of $1 < (I_0' / I_0)$, exists between the effective energy strength of the laser light irradiated on the top surface of said semiconductor island (I_0') and the effective energy strength of the laser light irradiated on the bottom surface of said semiconductor island (I_0).

10. (Previously Presented) A semiconductor device according to any one of claims 1 to 3, wherein said semiconductor device is incorporated into an electronic device selected

Docket No. 740756-2205
Application No. 09/651,889
Page 5

from the group consisting of a personal computer, a projector, a digital camera, a video camera, a head mounted display, a portable information terminal, a navigation system, a game machine, an image playback machine and a music playback machine.

11. (Currently amended) A semiconductor device comprising:
a semiconductor layer formed over a substrate; and
a channel forming region and source and drain regions formed in said semiconductor layer,
wherein said channel forming region is formed between said source and drain regions,
wherein a portion of said channel forming region is convexed in a direction perpendicular to a channel length direction and parallel to a plane of the substrate.

12. (Currently amended) A semiconductor device comprising:
a semiconductor layer formed over a substrate; and
a channel forming region and source and drain regions formed in said semiconductor layer,
wherein the channel forming region is formed between the source and drain regions,
wherein a portion of said channel forming region is concaved in a direction perpendicular to a channel length direction and parallel to a plane of the substrate.

13. (Currently amended) A semiconductor device comprising:
a semiconductor layer formed over a substrate; and
a channel forming region and source and drain regions formed in said semiconductor layer,
wherein said channel forming region is formed between said source and drain regions,
wherein a portion of said channel forming region is convexed in a channel width direction, said channel width direction being parallel to a plane of the substrate.

14. (Currently amended) A semiconductor device comprising:
a semiconductor layer formed over a substrate; and

Docket No. 740756-2205
Application No. 09/651,889
Page 6

a channel forming region and source and drain regions formed in said semiconductor layer,

wherein said channel forming region is formed between said source and drain regions,

wherein a portion of said channel forming region is concaved in a channel width direction, said channel width direction being parallel to a plane of the substrate.

15. (Currently amended) A semiconductor device comprising:

a semiconductor layer formed over a substrate; and

a channel forming region and source and drain regions formed in said semiconductor layer,

wherein said channel forming region is formed between said source and drain regions,

wherein a portion of said channel forming region is convexed in a direction perpendicular to a carrier flow direction and parallel to a plane of the substrate.

16. (Currently amended) A semiconductor device comprising:

a semiconductor layer formed over a substrate; and

a channel forming region and source and drain regions formed in said semiconductor layer; [[and]]

wherein said channel forming region is formed between said source and drain regions,

wherein a portion of said channel forming region is concaved in a direction perpendicular to a carrier flow direction and parallel to a plane of the substrate.

17. (Previously Presented) A semiconductor device according to any one of claims 11-16, wherein said semiconductor device is incorporated into an electronic device selected from the group consisting of a personal computer, a projector, a digital camera, a video camera, a head mounted display, a portable information terminal, a navigation system, a game machine, an image playback machine and a music playback machine.

18. (Currently amended) A semiconductor device according to claim 1, wherein said channel width direction is perpendicular to a ~~carrier flow~~ direction in which a carrier flows from the source region to the drain region.

Docket No. 740756-2205
Application No. 09/651,889
Page 7

19. (Currently amended) A semiconductor device according to claim 2, wherein said channel width direction is perpendicular to a ~~carrier-flow~~ direction in which a carrier flows from the source region to the drain region.

20. (Currently amended) A semiconductor device according to claim 3, wherein said channel width direction is perpendicular to a ~~carrier-flow~~ direction in which a carrier flows from the source region to the drain region.

21. (Currently amended) A semiconductor device according to claim 11, wherein said channel length direction is parallel to a ~~carrier-flow~~ direction in which a carrier flows from the source region to the drain region.

22. (Currently amended) A semiconductor device according to claim 12, wherein said channel length direction is parallel to a ~~carrier-flow~~ direction in which a carrier flows from the source region to the drain region.

23. (Currently amended) A semiconductor device according to claim 13, wherein said channel width direction is perpendicular to a ~~carrier-flow~~ direction in which a carrier flows from the source region to the drain region.

24. (Currently amended) A semiconductor device according to claim 14, wherein said channel width direction is perpendicular to a ~~carrier-flow~~ direction in which a carrier flows from the source region to the drain region.